

chiæ 5, large, copiously branched, tripinnate, set round the anus in a circle interrupted behind, retractile within a common cavity; this cavity has its opening irregularly 5-lobed, the lobes more or less tubercled. The pinnules of the branchiæ are lineated and tipped with black, the remainder being a waxy white. Foot rounded in front and behind, margin thin and undulated. There is a narrow notch in front, giving passage to the tubular proboscis; and immediately above it, in the groove between the foot and the mantle, are two minute flap-like projections. No odontophore, or buccal armature of any description.

ART. XXIX.—*Further Notes on Coccidæ in New Zealand, with Descriptions of new Species.* By W. M. MASKELL, Fel. Roy. Micros. Soc.

[Read before the Philosophical Institute of Canterbury, 1st September, 1881.]

Plates XV. and XVI.

1st Group.—DIASPIDÆ.

(Trans., vol. xi., p. 189).

1st Genus, *Mytilaspis*, Linn.

(Trans., vol. xi., p. 192).

1. *Mytilaspis pyriformis*, mihi.

(Trans., vol. xi., p. 194).

I HAVE lately succeeded in hatching out a male of this species. The insect (fig. 1) is orange-coloured, about $\frac{1}{30}$ inch long, of the normal form, generally, of the Diaspidæ; the abdominal spike is of considerable length. Antennæ (fig. 2) 10-jointed; foot (fig. 3) with four long fine digitules. Haltere (fig. 4) normal.

As remarked in a former paper (Trans. vol. xii., p. 294), the males of the Diaspidæ are not easily distinguishable. There is little certainty to be obtained except by hatching from the puparia, and even then, as the puparia are often similar, it is easy to make mistakes.

2. *Mytilaspis leptospermi*, sp. nov.

Puparium irregularly pyriform, flat, light-brown, formed (besides the two pellicles) chiefly of the bark-cells of the tree arranged longitudinally. The pellicle of the second stage is comparatively small.

Young insect normal.

Adult female greyish-green, generally resembling *M. pyriformis*. Abdomen ending in six lobes, of which the two median are conspicuous and somewhat large and floriated, the rest very small. Five distinct groups of spinnerets, the upper group with about 15 openings, the others with from 25 to 35. Single spinnerets none, or very few.

From bark of manuka (*Leptospermum*).

I am not sure that this is not perhaps a variety of *M. pyriformis*. At the same time the differences are considerable. The two median abdominal lobes of *M. leptospermi* are much more conspicuous than those of *M. pyriformis*; the groups of spinnerets are always distinct, and the single spinnerets usually wanting. The structure of the puparium is also different, but I would scarcely lay specific stress on this. In *M. pyriformis*, which I have hitherto found only on leaves or bark of soft-wooded plants, the whole secretion from the spinnerets is built up into the puparium in *transverse* fibrous layers, apparently without direct admixture of the vegetable substance of the plant. The bark of the manuka probably lends itself more readily to the purposes of *M. leptospermi*, which seems only to cement together with its secretion a number of the bark-cells scaling off the tree; and the fibrous secretion may be made out intermixed with these cells, which are always arranged *longitudinally*.

2nd Genus, *Chionaspis*, Signoret.

This genus has been separated from *Mytilaspis* on account of the form of the male puparium. In *Mytilaspis* the male and female puparia are alike; in *Chionaspis* the female has a broad and pyriform, the male a narrow and usually carinated, puparium.

1. *Chionaspis dubia*, sp. nov.

Puparium of female white, flat, very thin, pyriform, the two pellicles comparatively small.

Adult female generally resembling *Mytilaspis*, but with somewhat deeper corrugations towards the abdominal end. Abdomen ending with a median depression as in *Diaspis rosæ* (Trans., vol. xi., p. 201): no terminal lobes. Five groups of spinnerets; upper group with 6–10 orifices, the rest 10–15.

Male puparium white, elongated, irregularly oval, flat above, but with two keels on the under side, enclosing a longitudinal semi-cylindrical groove as in *Fiorinia asteliæ*, mihi.

Adult male reddish colour, generally normal form of Diaspidæ. Antennæ hairy, 10-jointed, the first two joints very short. Feet normal, with four long fine digitules. At the base of the abdominal spike is a somewhat large tubercle. Haltere of the general form of *Mytilaspis* (see fig. 4), but the terminal seta is very long, four times as long as the thick basal portion, and has no terminal knob. Thoracic band conspicuous. The thorax is somewhat long, so that there is a considerable distance between the first and second pairs of legs.

Common on many plants, *Coprosma*, *Rubus*, *Asplenium*, etc.

The species of *Chionaspis* seems to be by no means clearly differentiated. The present insect resembles in some particulars *C. aspidistræ*, Signoret, *C.*

populi, Bärensprung, and others, but differs so much that I can refer it absolutely to none, and am forced to consider it as new. Still it may be only a variety.

3rd Genus, **Aspidiotus**, Bouché.

1. *Aspidiotus aurantii*, mihi.

(Trans., vol. xi., p. 199).

I learn from Mr. Comstock, entomologist to the Department of Agriculture, Washington, that this species abounds, and does very great damage, on orange and lemon trees in California and Florida. I do not gather from him, however, that any description of it was published previous to my paper of 1878, so that, I presume, my name for it will be retained.

While in Melbourne last year, I observed this insect in great numbers on orange trees there. But the fruit which has been sold in the shops here during the last few months seems to have been comparatively free from it. Probably, as in other countries, the pest has cycles of maximum and minimum frequency.

2. *Aspidiotus nerii*, Bouché.

I have lately found, on *Coprosma*, in the North Island, this species, which is exceedingly common in Europe, but seems to have hitherto not spread in this country. Its favourite habitat is the *Nerium oleander*, and in France and Northern Italy it does very great damage to that and several other plants. In Melbourne I noticed many plants terribly infested with it. The puparium is whitish, and, as in all *Aspidioti*, round and flat. The species may be recognized by the four anal lobes of the young insect (of which two are somewhat prominent) and by the form of the scaly hairs at the anal extremity of the adult female: these hairs have, some a rectangular, some a serrated tip.

4th Genus, **Fiorinia**, Targioni.

1. *Fiorinia asteliæ*, mihi.

Trans., vol. xi., p. 201, under the name *Diaspis gigas*, corrected in vol. xii., p. 292.

It is to be noted that the *larval* form of the male of this species, that is, the stage succeeding the young insect, resembles not a little an adult female of *Mytilaspis drimydis*, showing the four anal lobes extending some way into the body, as in pl. v., fig. 5a, Trans., vol. xi.: but it is somewhat more deeply corrugated, and of a greyish yellow colour instead of red. The form of the puparium, which is quite distinct in the two species, will prevent mistake. In *F. asteliæ* the puparium of the male is long, narrow, thin, and on the under side bi-carinated. The puparium of *M. drimydis* more nearly resembles that of *M. pomorum*, and has no keels.

Amongst the type slides of Coccidæ deposited by me with the Institute, is one showing the male larva of *Fiorinia* in the act of changing into the pupa.

When, as often happens, a leaf or a twig is covered with individuals belonging to two or three different species, it is not always easy to distinguish between them. If practicable, the males should be hatched out from their puparia: but in the great majority of cases this cannot well be done. It is still more difficult, if not impossible, to follow out and watch the development of the females, a process requiring a regular supply of food during many months.

2nd Group.—LECANIDÆ.

(Trans., vol. xi., p. 203.)

Subsection LECANIO-DIASPIDÆ.

(Trans., vol. xi., p. 207.)

1st Genus, *Ctenochiton*, mihi.

(Trans., vol. xi., p. 208.)

1. *Ctenochiton spinosus*, mihi.

(Trans., vol. xi., p. 212.)

The young insects, which may be found beneath the mother in autumn in great numbers, show the marginal spines very prominently. The abdominal lobes are comparatively large, and if it were not for other circumstances, I should be almost inclined to consider the species as allied somewhat to *Kermes*, a genus in which the young insect has the anal tubercles of the Coccidæ, whilst the adult has the lobes of *Lecanium*. The antennæ of the young *C. spinosus* have five joints. The upper digitules are long fine hairs: I cannot make out the lower pair. The body is convex above, flat beneath: colour red: length about $\frac{1}{50}$ inch.

The peculiarly fringed test of this species is not easily made out on the adult female; indeed it is easy to mistake the insect then for one of the semi-globular naked Lecanieæ.

2. *Ctenochiton piperis*, sp. nov.

Figs. 5-8.

Young insect of generally normal form of Lecanidæ, but the edges have a great number of minute wrinkles, giving them a crenate appearance: the crenations are very apparent on the cephalic portion. The antennæ are somewhat thick, with six joints; on the last joint some hairs. Feet normal; upper digitules long, fine; lower pair somewhat broader. The usual setæ on the abdominal lobes.

In the next stage the form generally resembles that of *C. perforatus*, but the cephalic end is narrower (fig. 5), giving a roughly triangular shape. The edge has the wavy appearance spoken of in Trans., vol. xi., p. 209. Stigmatic spines somewhat stout: there are a few minute spines on the edge. Antennæ rather thick, 6-jointed: on the last joint several hairs. Feet normal of the genus. From the abdominal lobes two setæ. The test begins to be apparent in this stage as in *C. perforatus*: it is waxy and very

thin, and vanishes in balsam. The fringe, as shown in fig. 5, has rather wider and shallower segments than in *C. perforatus*, and I have not seen any of the peculiar markings, or pits, characterizing that species. The body is very thin in this stage. Length about $\frac{1}{30}$ inch.

Adult female (fig. 6) circular, convex above, flat beneath; colour generally greenish, but under the central divisions of the test deep purple, covered with a white, glassy or waxy, test of some consistence, which extends a little beyond the edge in an irregular fringe; but the fringe is often broken or absent, leaving the edge a continuous circle as in fig. 6. The test is regularly tessellated, the tessellations corresponding to those of the body: a row of pretty regular hexagons, the largest being in the centre, runs along the middle, having on each side another row of hexagons somewhat wider, and beyond that a third row of hexagons: a fourth row, of which the outer angles are cut off by the edge, completes the circle. The middle row and the row on each side of it cover the purple patches of the body. Under each of the hexagons, between these and the outermost row, is a small swelling, or tubercle: if the insect be macerated in potash and rendered transparent, these tubercles are seen placed in a ring round the whole body about half way between the centre and the edge. I have failed to make out what is their function: under certain lights they have some slight resemblance to spiracles, but they are much too large, and moreover the Lecanidæ have but four spiracles, whereas there are twenty-four of these tubercles.

The insect fills the whole test, and in its last stage is slightly hollow underneath: the young, as in *Lecanium depressum*, are to be found in the cavity thus formed. The antennæ (fig. 7) of the adult have seven joints, the third joint being the longest. The second, third, fourth, and fifth joints have each one hair, the seventh several hairs. Feet (fig. 8) normal of the genus: the lower digitules rather broad.

The average diameter of the adult insect is about $\frac{1}{15}$ inch.

Not uncommon in the North Island on *Piper excelsum*: sometimes on other trees. I have not found it in the South.

The almost regularly circular form and the colour, green with purple patches, of this species readily distinguish it from others of the genus. It forms a handsome opaque object for the microscope.

2nd Genus, *Inglisia*, mihi.

(Trans., vol. xi., p. 213.)

1. *Inglisia patella*, mihi.

(Trans., vol. xi., p. 213).

I have succeeded lately in procuring both the young insect and the adult male of this species.

The young insect has no general peculiarities of form calling for remark, but is readily recognized by its edge, along which is a row of the curious club-shaped spines visible in the adult, and figured in vol. xi., pl. vii., fig. 16d. But whereas in the adult insect these club-shaped spines are alternated with sharp ones, in the young the sharp spines are absent. The length of the body is about $\frac{1}{50}$ inch.

The male insect undergoes its transformations in a test similar to that of the female. At least my specimen was hatched from a leaf of *Drimys* from Lyttelton on which there were a number of tests (perhaps fifty), and I was unable to find any difference to show which were tests of males. The insect is about $\frac{1}{24}$ inch long, exclusive of the abdominal spike; greenish in colour: form generally normal. Antennæ 10-jointed: the first two joints very short, the rest to the seventh much longer and equal, the three last somewhat shorter and equal. All the joints have several hairs. Foot normal; four digitules, all fine knobbed hairs. Wings rather long, hyaline. Abdominal spike about half the length of the abdomen. From the last segment of the abdomen spring two very long white setæ.

This species is more common than I imagined when first describing it. I have seen plants of *Drimys* on the hills over the town of Lyttelton with every leaf covered thickly with the tests of *I. patella*, so thickly indeed, as to make the whole under surface of the leaves look white.

2. *Inglisia leptospermi*, sp. nov.

Figs. 9–17.

Test white, glassy or waxy, elongated, convex above, flat and open beneath, formed of several agglutinated segments, each segment more or less convex or conical, median segments usually five in number; at the edge an irregular fringe, as in *C. perforatus*, but the fringe is often absent. Average length of test $\frac{1}{10}$ inch.

The test, though preserving the same general form, is subject to minor variations, as shown in figs. 9 and 10.* I rather think that fig. 9 is a younger form than fig. 10, and that the little secondary tests shown in the former become more closely agglutinated with age.

Each segment of the test is marked with grooves and striæ radiating from the centre, as in the single test of *I. patella*. The striæ, which widen from the apex to the base, are composed, as in the former species, of perforations containing air.

The female insect (figs. 11, 12, 13) fills the test in the adult stage, but, as in most of the Lecanio-diaspidæ, becomes when old, and after propaga-

* Fig. 10 is slightly incorrect: the segments of the marginal fringe are shown too small and regular.

tion, shrivelled up at one end of the test. The insect is flat beneath, convex above, of elongated oval shape, brown in colour. The two abdominal lobes, which are yellowish, are conspicuous over the anal cleft (fig. 11). The underside is smooth, but the upper is divided by several large corrugations, and I think each corrugation corresponds to one of the primary segments of the test.

The mentum is, I think, bi-articulate, but I have not been able to make this out with certainty.

Antennæ (fig. 14) of seven joints, of which the third is the longest, the fourth, fifth and sixth, the shortest; a few hairs, especially on the last joint. In some specimens I have seen the third joint as if divided into two; but this was probably only due to a folding of the integument.

Feet (fig. 15) normal; the tibia is somewhat thin, and has one spine or hair at its tip. Digitules, of which two are shown in fig. 16, normal; upper pair long knobbed hairs, lower pair very broad.

The female in the second stage is also convex above, flat below, but is less thick than the adult, and has not the corrugations. General form elongated oval, with the anal cleft and lobes of Lecanidæ, but the lobes are not, as usual, smooth, but approach by irregularity the anal tubercles of the Coccidæ, and like them bear a few hairs. I think the anal ring has eight hairs. Antennæ of six joints. Feet normal, digitules as in adult. On the skin are several scattered, circular, very minute, spinnerets; the stigmatic spines are long and conspicuous, and along the edge runs a row of conical hairs or spines, which may, as in *Acanthococcus*, act also as spinnerets. These details are shown in fig. 17.

Like the other Lecanio-diaspidæ here, *I. leptospermi* is much subject to attacks from parasitic Hymenoptera.

Not uncommon throughout the Islands on the manuka, *Leptospermum scoparium*. I have found the twigs of this tree covered with the little white tests of this insect near Christchurch, Kaiapoi, Wellington and Auckland. I have not seen it on any other plant. It does not appear to attack the leaves, but prefers the young twigs.

I had some doubt, when describing in 1878 *Inglisia patella*, as to the propriety of erecting a new genus to fit a single species. *I. leptospermi* has come to remove the doubt: the nearest European genus seems to be *Fairmairia*, Signoret: but the 7-jointed antenna of *Inglisia* and the form of the test remove it from that genus.

3rd Genus, *Lecanochiton*, gen. nov.

Adult female covered by a test formed partly of the pellicle of the second stage, partly by a hard, apparently chitinous, secretion. Other characters of Lecanidæ: apodous in adult stage.

The admixture of the second pellicle with secretion to form the test approaches this genus more nearly to the Diaspidæ than any others of the group. But there can be no mistaking its affinities, for the abdominal cleft and lobes of *Lecanium* at once define its position.

1. *Lecanochiton metrosideri*, sp. nov.

Figs. 18–21.

The young insect, extremely minute, has the general form of *Lecanium hesperidum*: it is flat, oval, brown, or rather reddish, usually found at the tips of young shoots. The antennæ have six joints (fig. 18); on the last joint are several hairs, amongst which is one excessively long, slightly knobbed. Foot (fig. 19) normal; the joints hairy; upper digitules fine knobbed hairs, lower pair a little broader.

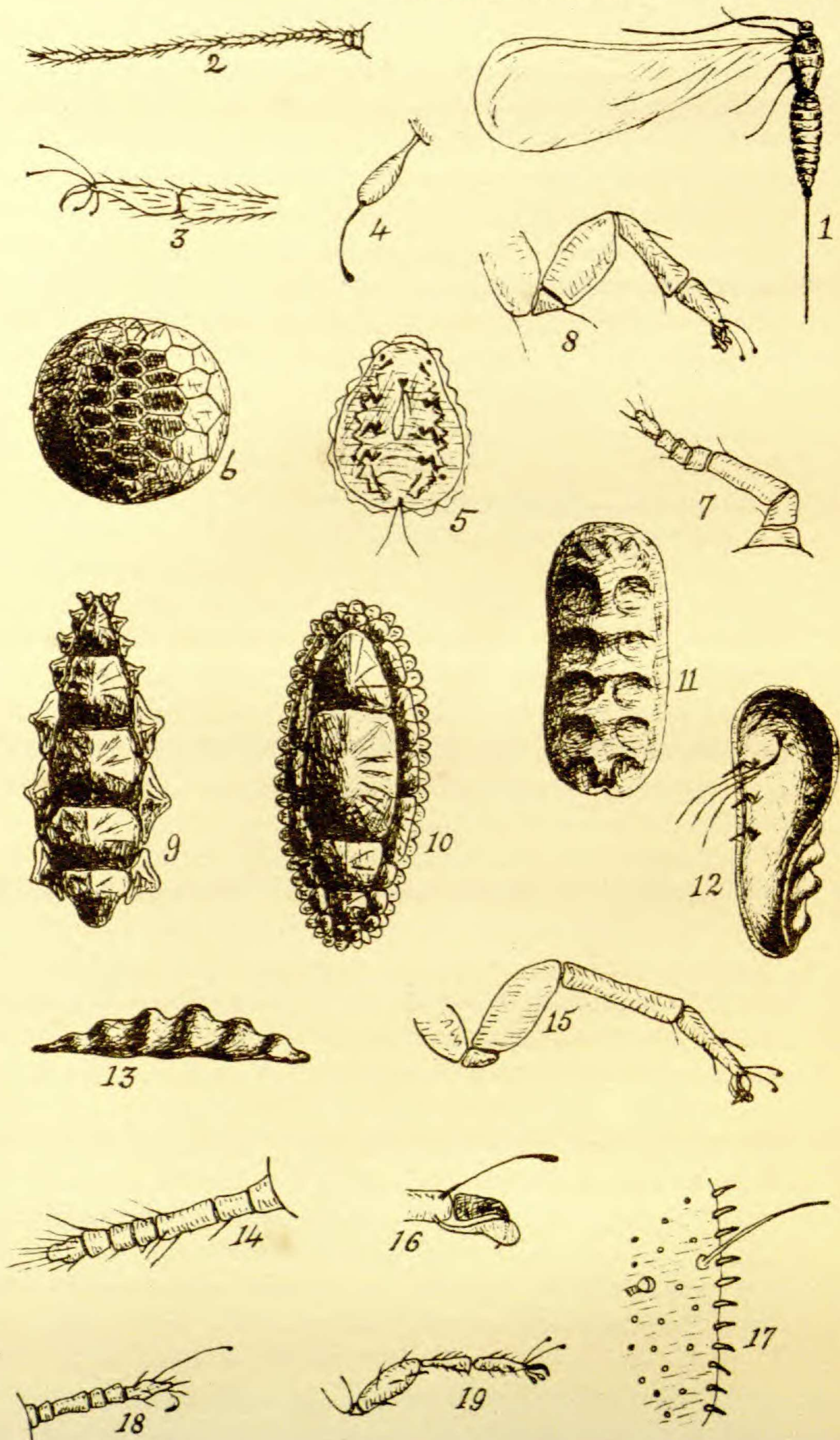
In the second stage the insect is scarcely altered: the antennæ and feet remain as before: but there is a test, white, waxy, very thin, covering the dorsal surface, and extending a little beyond the edge in an irregular fringe somewhat resembling that of *Ctenochiton elongatus* (Trans., vol. xi., p. 212, pl. vii., fig. 14d). On the edge, also, are a number of protruding spinneret tubes, glassy, white, cylindrical, either curved or straight: a few of these tubes protrude on the surface of the back. The under side of this stage is shown in fig. 20.

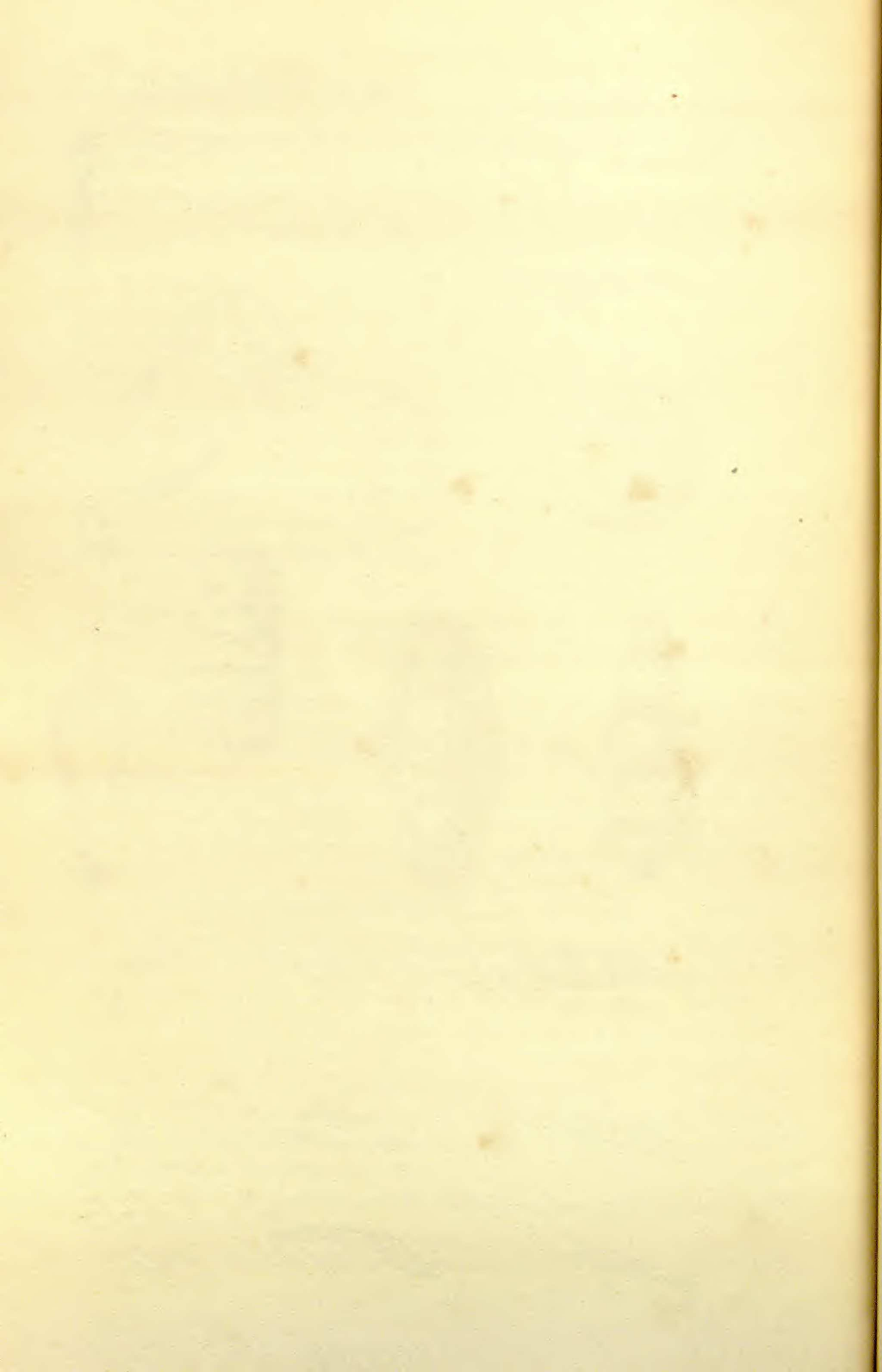
The adult female is covered by a hard, brown test (fig. 21, dorsal view), having the general appearance of an overturned basket, the foot of the basket being formed by the pellicle of the second stage. This test, convex or semi-globular above, is open beneath; and as the insect, which entirely fills the test, approaches its last stage it becomes slightly hollowed below as in some other Lecanidæ: in the cavity thus formed the young are hatched.

The female, dark-brown in colour, corresponds to the shape of the test. The rostrum is comparatively large; the mentum, I think, monomerous. Antennæ (fig. 22) short, thick, atrophied; and the seven joints of which they are composed are so compressed as to show apparently only three: it is not easy to make out the divisions. The last joint has a few hairs. The feet are entirely absent, and I have not been able to see maculæ in place of them, as is usual in some other apodous Lecanidæ.

On the pellicle at the top of the test may be seen remains of the test of the second stage. From this pellicle radiate to the edge four rows of rather large spinnerets secreting the test, each row starting from a point opposite the stigmata of the pellicle: and on turning over the test there are seen on the underside four corresponding lines of white cotton.

The skin of the insect is smooth and not tessellated.





I obtained my specimens from the *rata* tree (*Metrosideros*) at Milford Sound. Being in the Sound only a few hours on my way from Melbourne, I was unable to make as full a collection as I should wish, nor could I find a male.

Lecanochiton is the only genus of Lecanidæ, as far as I know, which makes use of the pellicle of its second stage. In the Diaspidæ the pellicles always form part of the test. This new genus supplies an extra link between the two groups, as the genus *Kermes*, where the young insect has the anal tubercles whilst the adult has the abdominal lobes, is the link between the groups Lecanidæ and Coccidæ. As mentioned by me (Trans. vol. xii., p. 291) there is a very close gradation between all the genera of the Homoptera, at least as far as concerns the Monomera.

3rd Group.—COCCIDÆ.

(Trans., vol. xi., p. 216.)

1st Subsection.—LECANO-COCCIDÆ, sec. nov.

Insect possessing the anal tubercles of *Coccus* in all stages; covered by a test; mentum monomerous.

As observed in my first paper (Trans., vol. xi., p. 217), the general characteristics of the group Coccidæ are, a pair of anal tubercles, and a mentum bi- or tri-articulate. I have, however, lately met one of those puzzling forms which possess characters apparently of two groups. The articulations of the mentum are in most cases very difficult of detection; and, as it seems to me, the only sure guide to the grouping of a species is the presence of *anal tubercles* (in which case it is a Coccid), or of *abdominal lobes* (in which case it is a Lecanid). As a rule, a Lecanid has not more than eight, and almost always seven, joints in the antennæ. But in cases where, as in the following species, the antennæ are lost in the adult stage, this can clearly not be made a guide.

In the genus *Kermes* the young insect has the anal tubercles of *Coccus*, the adult the abdominal lobes of *Lecanium*: and this genus has been, in late works on the Homoptera, considered as a link between the two groups on that account. The insect which I have to describe has the anal tubercles in all stages, and if the mentum were not uni-articulate I should have placed it amongst the group Coccidæ, in the subsection Coccidæ proper. As it is, I am compelled to create a new subsection for it.

Genus *Planchonia*, Signoret.

Insect enclosed in a hard, smooth, test, completely surrounding it; test convex above, flat below. Adult female apodous. Anal tubercles present in all stages. Test surrounded by long fringe.

M. Signoret, following Professor Targioni-Tozzetti, includes the genus *Planchonia* amongst the Lecanio-diaspidæ, but himself remarks that on

account of the tubercles it ought to be removed thence. I see no reason for perpetuating the error here, and have therefore placed it in its proper place.

Planchonia epacridis, sp. nov. (?)

Figs. 30–37.

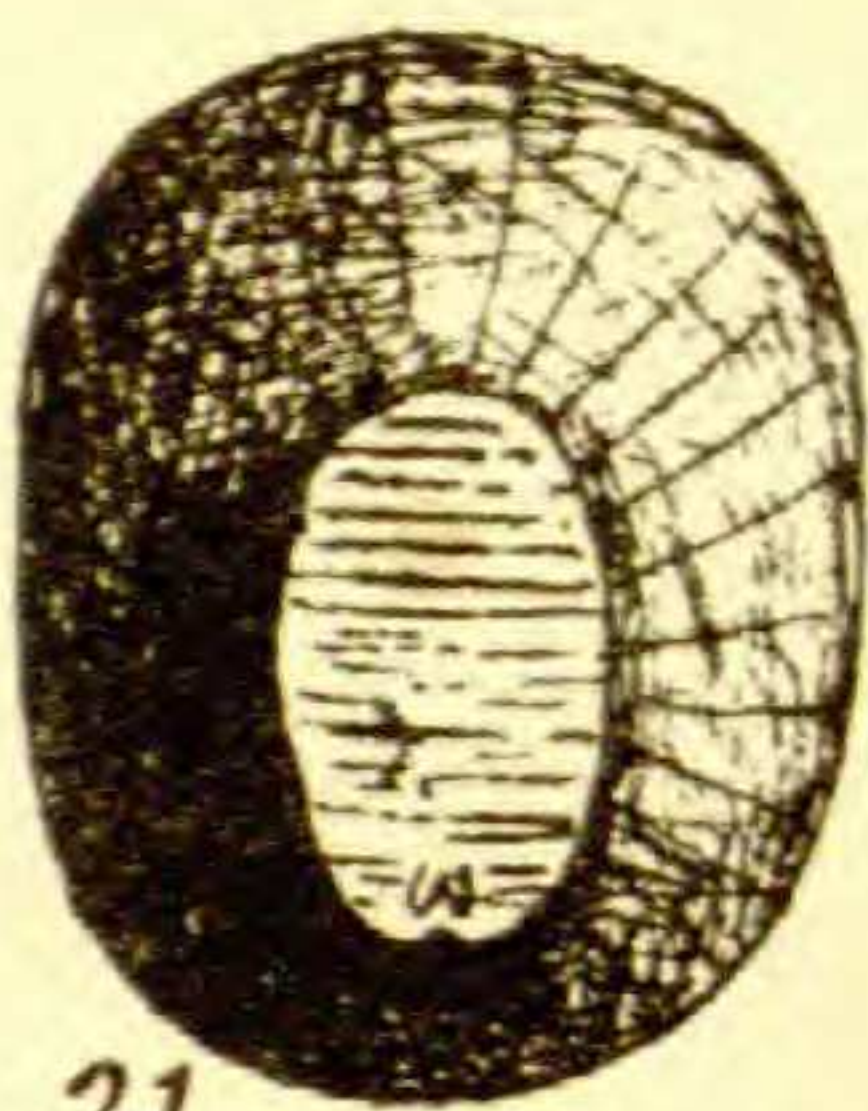
Young insect about $\frac{1}{40}$ inch in length, outline oval, body flat, tapering somewhat towards the anal tubercles (fig. 30). Antennæ (fig. 31) of five joints, but as these are crossed by numerous, closely placed, transverse lines, they seem to have more joints. The last joint is slightly clavate and has several long hairs. Feet (fig. 32) with well developed coxa, trochanter and femur; tibia and tarsus thin. I can make out only two digitules, which are fine hairs. From the anal tubercles spring two long setæ. The mentum is uni-articulate. General colour reddish brown. All over the dorsal surface and round the edge of the body are scattered spinneret orifices in the form of the figure 8, from which spring long, curling, white, glassy tubes.

Second stage of female with general outline resembling the young; body somewhat flatter, marked with several transverse corrugations. Average length about $\frac{1}{20}$ of an inch (fig. 33). Antennæ completely atrophied, indeed quite lost, their place being occupied only by circular rings with four hairs (fig. 34). Feet likewise absent. Mentum uni-articulate. Anal tubercles not very prominent, each bearing a long seta. The anal ring has, I think, six hairs. On the dorsal surface there are only a very few spinneret orifices, but round the edge of the body is a row of the figure-of-8 spinnerets, and from these springs a long silvery fringe, which is double. In fig. 33 I have tried to represent this fringe, but have only been able to show one row of it. It is necessary to imagine another row above the one shown, as if there were two fringes, one over the other. As the colour of the insect at this stage is reddish brown, as is also the surface of the leaf on which it feeds, the effect of this double glassy fringe of silver is of great beauty. The tubes of the fringe are not quite straight. Each pair springs from one of the figure-of-8 orifices, and the tips slightly diverge.

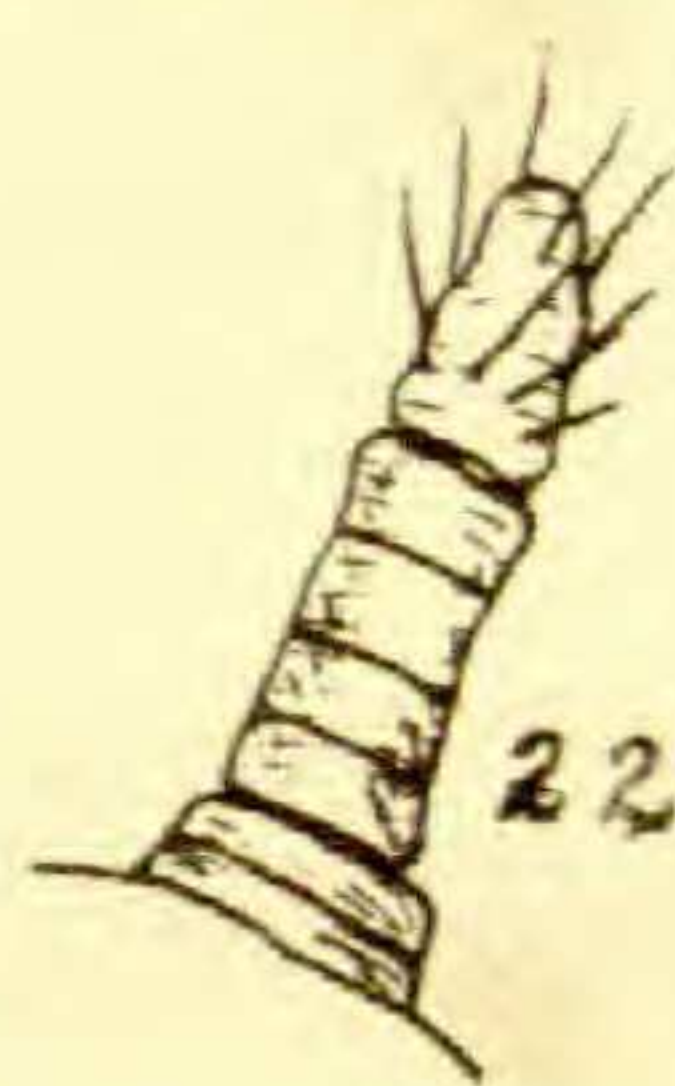
The adult female is covered over with a smooth, hard, semi-transparent test, convex above, flat beneath, and on the underside this test is also almost closed, leaving only an orifice for the rostral setæ, so that the insect is really enclosed: but at the extreme end of the abdomen the upper and lower portions of the test are slightly parted, leaving an opening. The test (fig. 35) is oval, but tapers towards the anal extremity, and in all the specimens which I have seen this anal end was turned towards the tip of the leaf. I should imagine that the reason for this is to facilitate the work of the male (though I have not as yet found any male insects). The leaves of *Leuco-*



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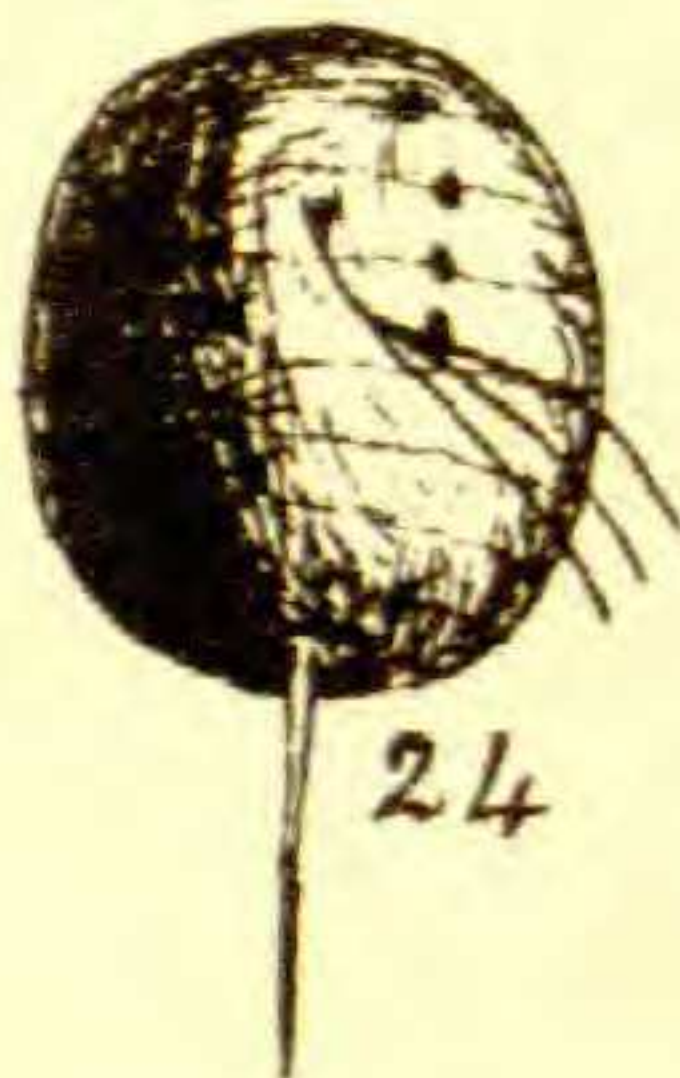
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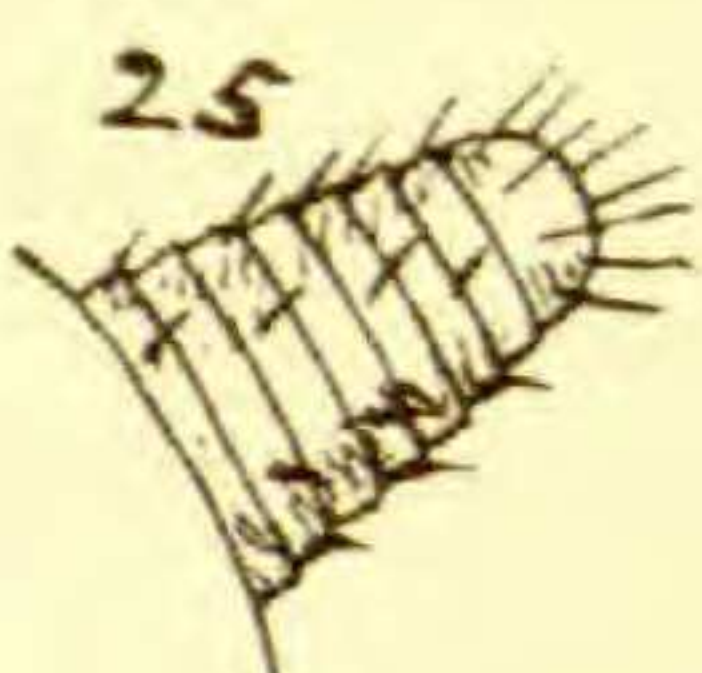
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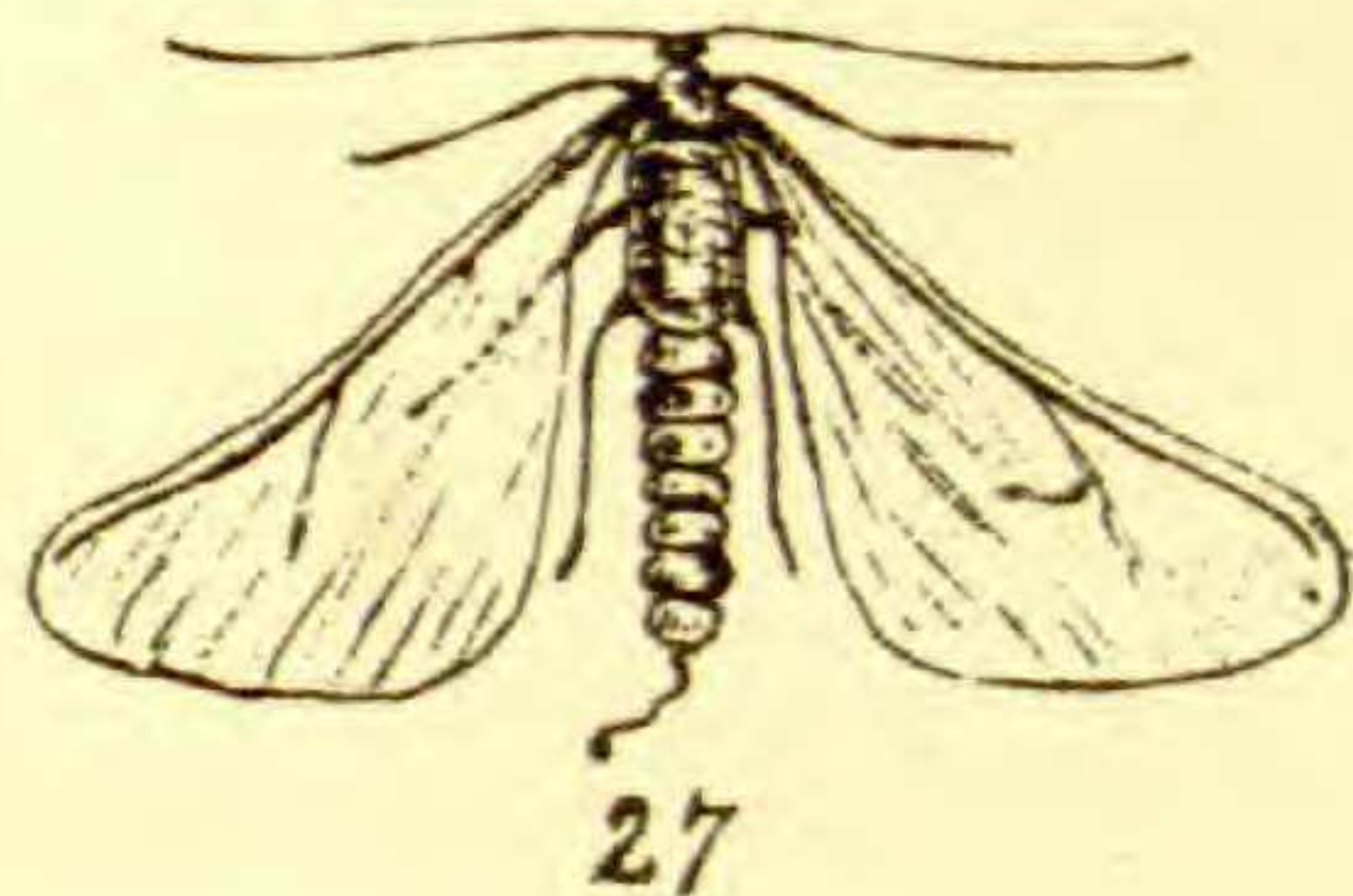
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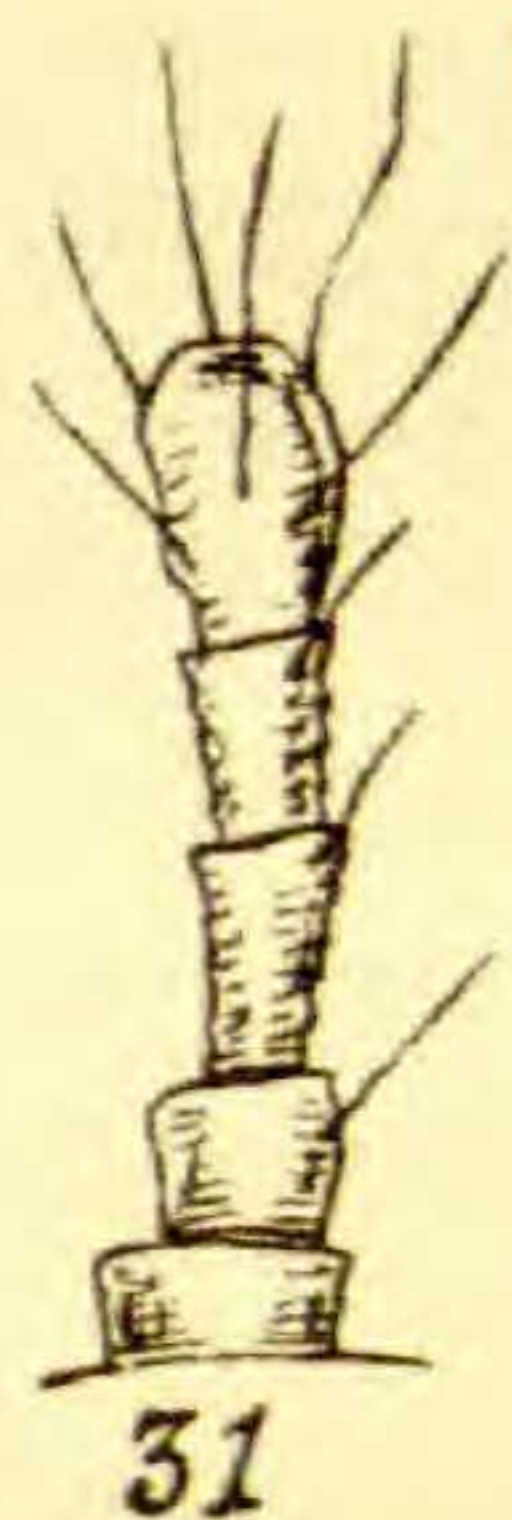
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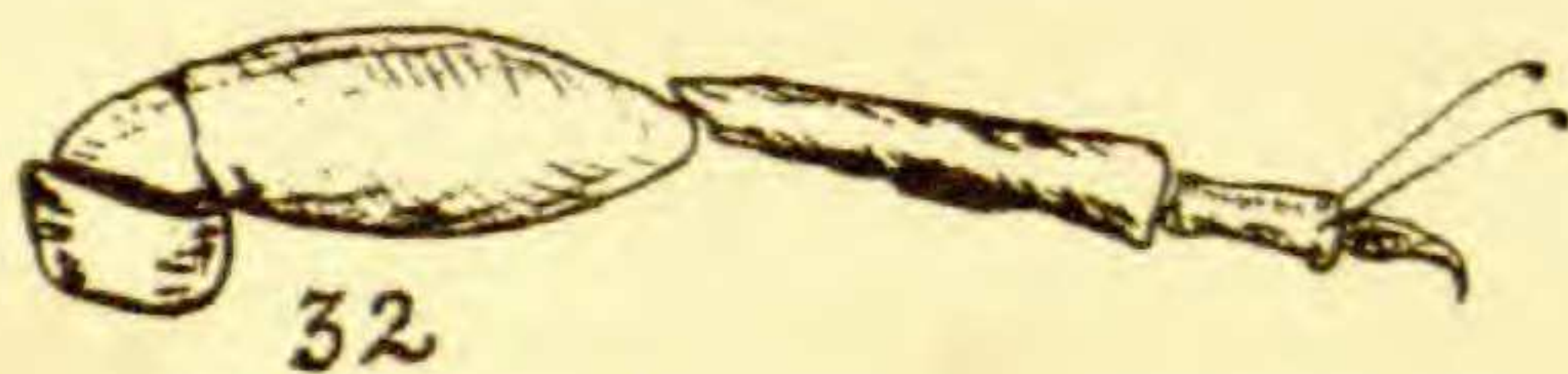
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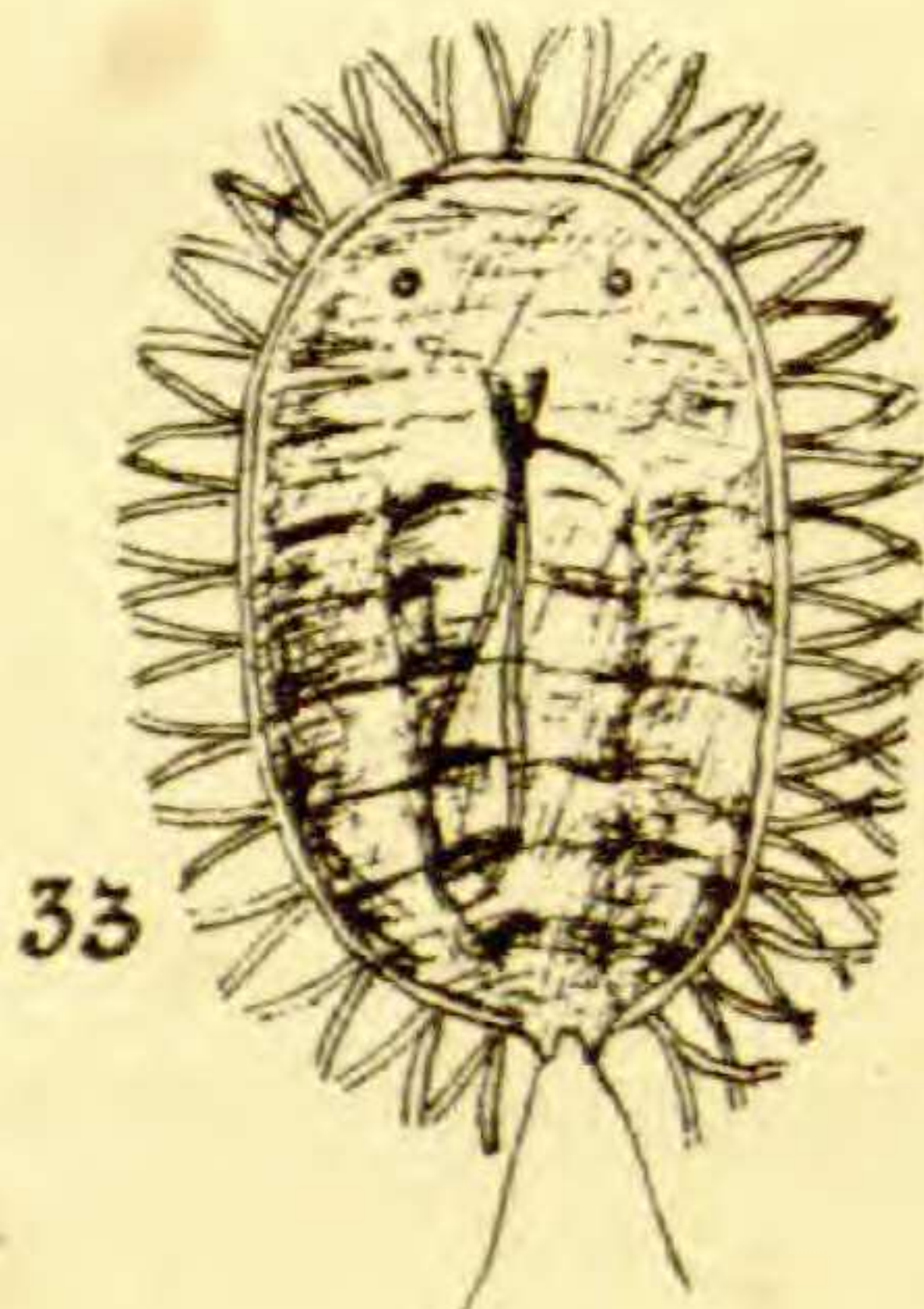
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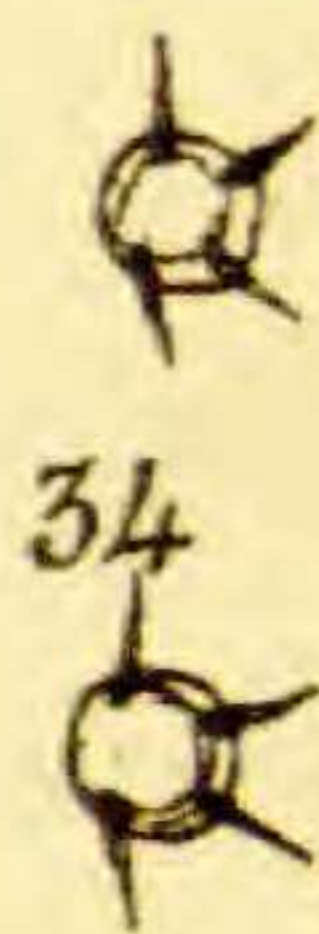
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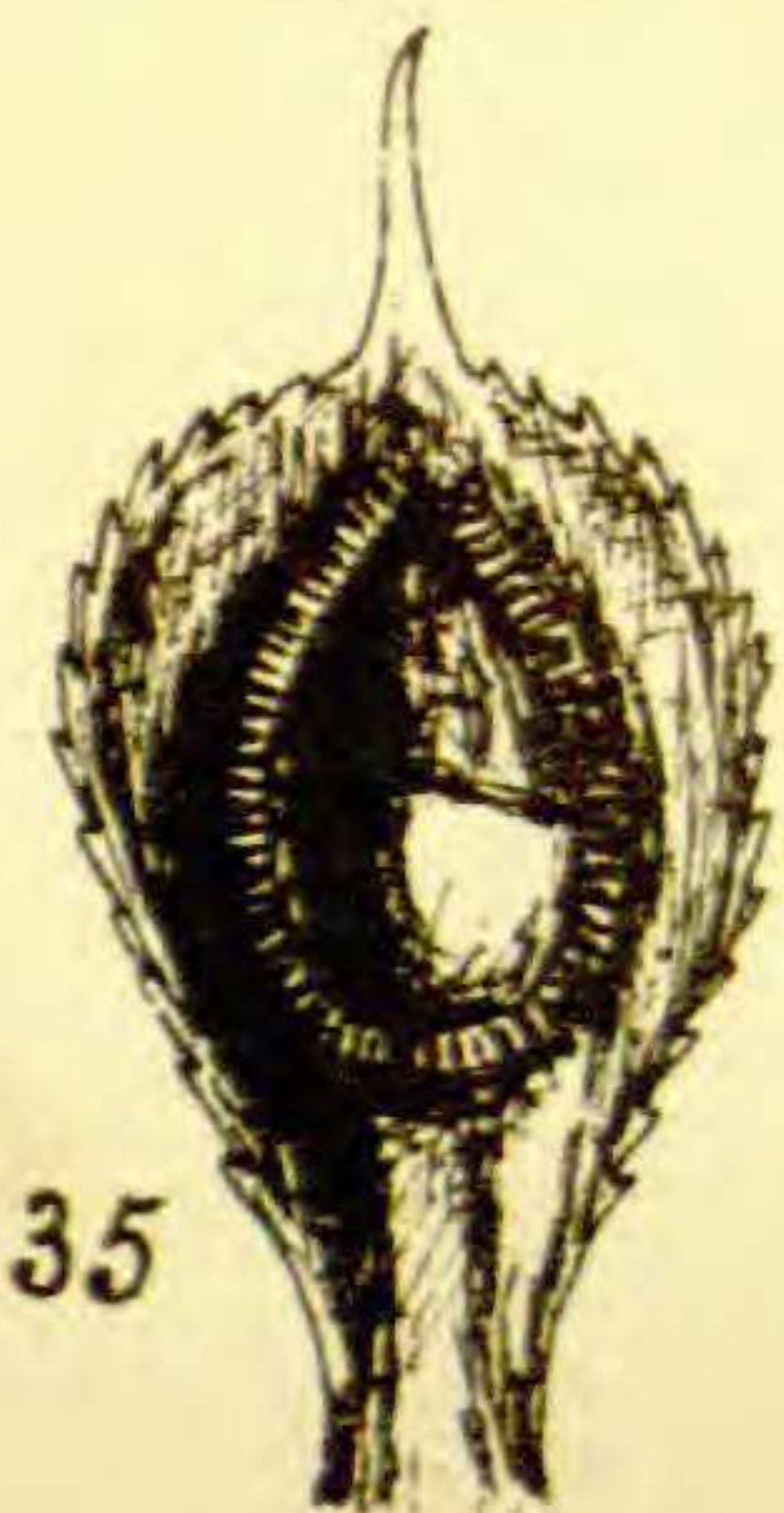
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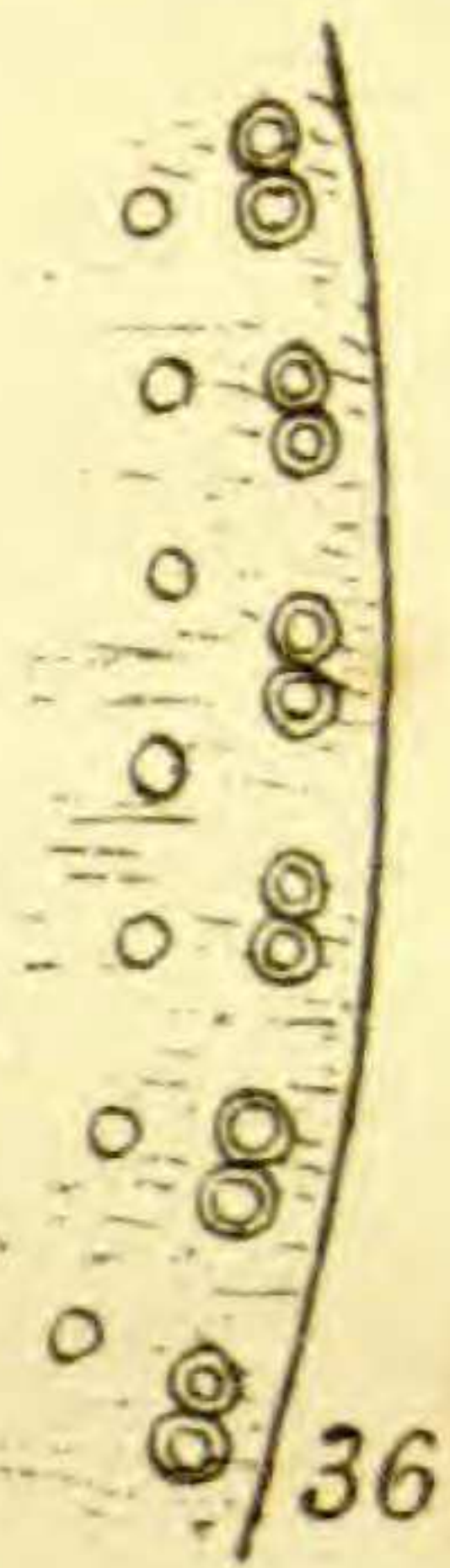
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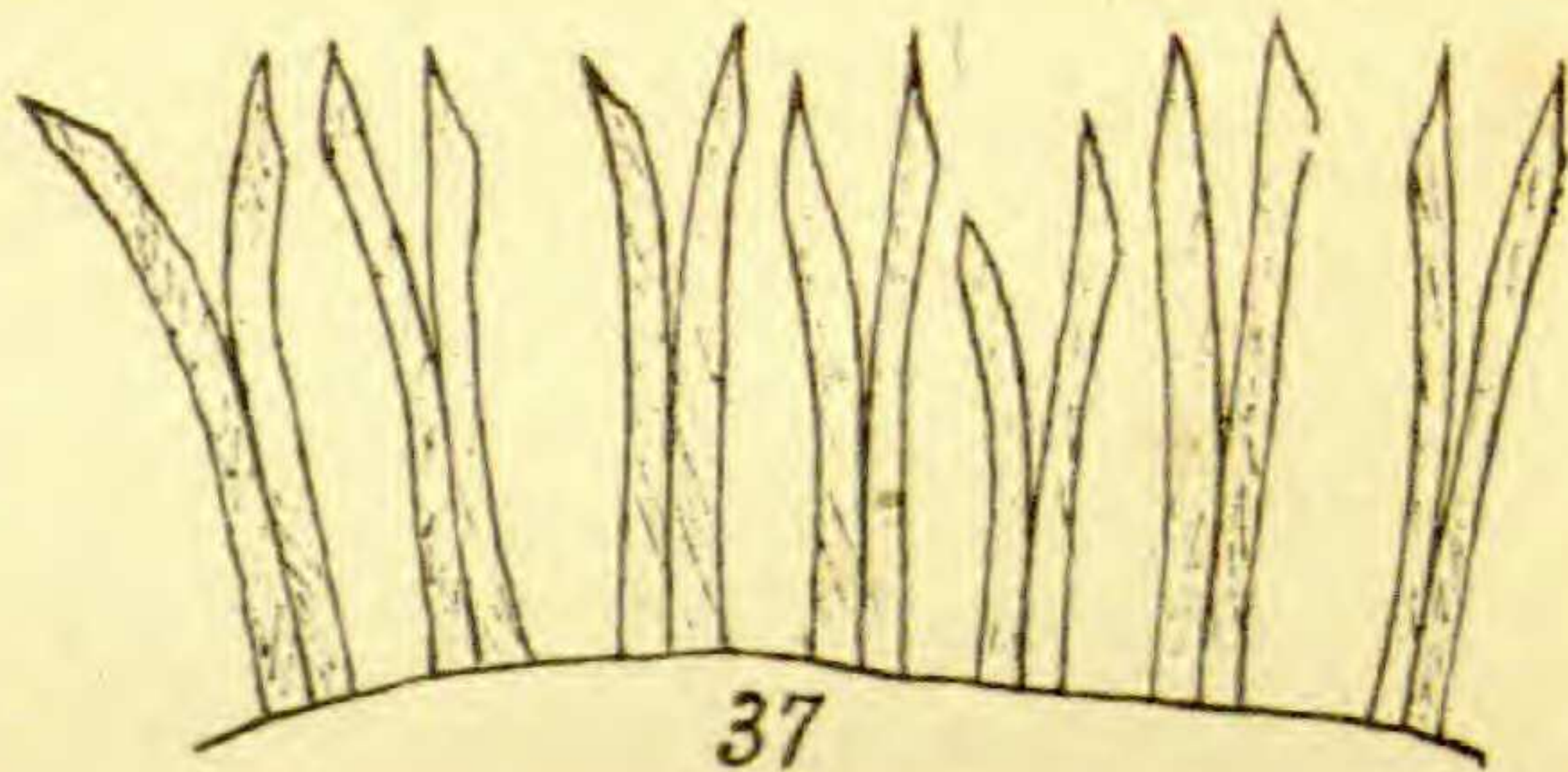
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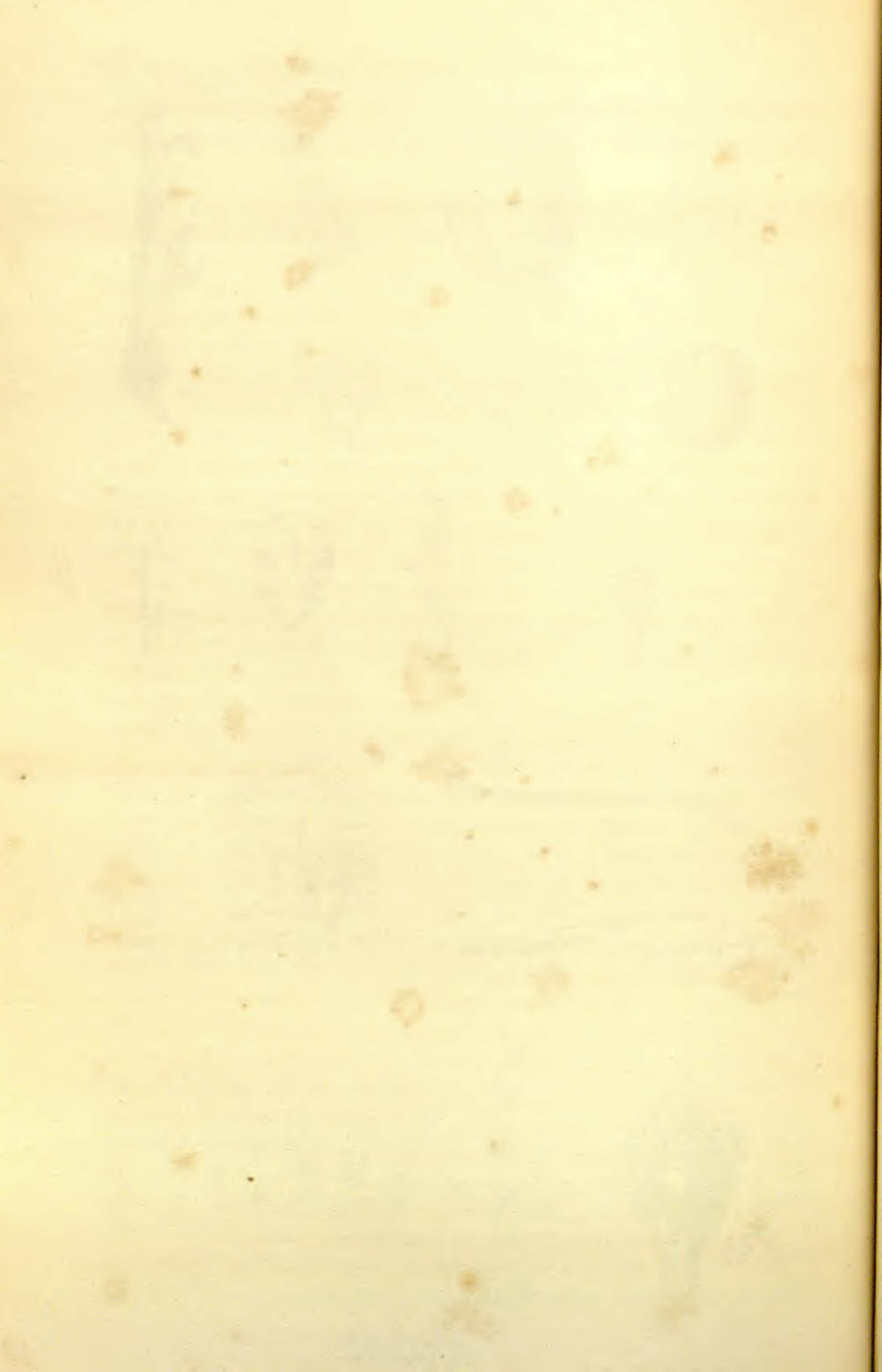
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pogon fraseri, on which *Planchonia epacridis* is found, are often pretty closely imbricated, and there would be considerable difficulty for the male to impregnate the female if the abdomen of the latter were turned towards the stem of the plant. By turning the abdomen towards the tip of the leaf the male may with ease reach the female through the opening, just mentioned, between the portions of the test. Accordingly, in several scores of specimens which I have examined, the abdominal extremity of the test is directed to the tip of the leaf.

The test, in all cases which I have seen, is of two colours: one half, at the cephalic end, is dark green, the other, or abdominal half, is bright yellow. All round the edge runs, as in the second stage, a long silver fringe in double row, one row over the other. The contrast of these colours with the dark reddish-brown of the leaf is extremely beautiful. Average length of the test $\frac{1}{15}$ to $\frac{1}{20}$ inch, exclusive of fringe.

The insect fills the whole test until gestation, after which it shrivels up, as in the *Lecanio-diaspidæ*, towards the cephalic end. It is, therefore, convex above, flat below. Antennæ, as in the second stage, reduced to rings with hairs (fig. 34). Feet entirely absent. The four spiracles are somewhat large: there are no spiracular spines as in *Lecanium*. Anal tubercles small, each bearing a seta: anal ring with six hairs. Along the edge of the body is a row of the figure-of-8 spinnerets, as shown in fig. 36: and all over the dorsal surface are a large number of simple circular spinneret orifices from which the test is secreted. Also a number of protruding tubes which stand out irregularly over the body like minute fingers, each cylindrical with a slight expansion at the tip. The mentum is uni-articulate, globular: the rostral setæ are short.

On *Leucopogon fraseri*, as yet only from Amberley, where it seems to be pretty abundant in one locality.

Having been obliged to send back to France my copy of M. Signoret's work on the Homoptera (the only work of reference available for the order at present), I am unable to say positively that *Planchonia epacridis* is a new species. It is possible too that I may have been mistaken in assigning its generic position, for I am not clear that the European *Planchonia* has not a felted, instead of a waxy or glassy test. Of course such a difference would be radical, because the secretion of wax and the secretion of felted matter would mean a different description of organs. However, the occurrence of the insect in a locality far removed from imported plants would seem to point to its being, at least, indigenous. I found it always on *Leucopogon*, growing amongst the tussocks and native plants, with only here and there a rare specimen of English grass or clover, from neither of